

Name: _____ Period: _____ Date: _____

Factoring Guess & Check

$$x^2 + (A + B)x + A \cdot B = (x + A)(x + B)$$

1. Find the factors of the constant term
2. Determine if they summed to the second term
3. Write the product of binomials

<p>1. $x^2 + 2x - 8$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>1+8 1·8</p> <p>2+4 2·4 -2 & 4</p> <p>$(x+A)(x+B)$ $(x-2)(x+4)$</p> <p>Check using FOIL: $x^2 + 4x - 2x - 8$ $x^2 + 2x - 8$</p>	<p>2. $x^2 - 10x + 16$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>1+16 1·16</p> <p>2+8 2·8 -2 & -8</p> <p>4+4 4·4</p> <p>$(x+A)(x+B)$ $(x-2)(x-8)$</p> <p>Check using FOIL: $x^2 + 4x - 2 - 8x + 16$ $x^2 - 10x + 16$</p>
<p>3. $x^2 - 14x + 45$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x+A)(x+B)$ $(x \text{ } \underline{\hspace{1cm}})(x \text{ } \underline{\hspace{1cm}})$</p> <p>Check using FOIL:</p>	<p>4. $x^2 - 17x + 16$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x+A)(x+B)$ $(x \text{ } \underline{\hspace{1cm}})(x \text{ } \underline{\hspace{1cm}})$</p> <p>Check using FOIL:</p>
<p>5. $x^2 + 4x - 32$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x+A)(x+B)$ $(x \text{ } \underline{\hspace{1cm}})(x \text{ } \underline{\hspace{1cm}})$</p>	<p>6. $x^2 - 15x + 44$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x+A)(x+B)$ $(x \text{ } \underline{\hspace{1cm}})(x \text{ } \underline{\hspace{1cm}})$</p>

<p>7. $x^2 + 8x - 20$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x + \underline{\hspace{1cm}})(x + \underline{\hspace{1cm}})$</p>	<p>8. $x^2 - 9x + 8$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x + \underline{\hspace{1cm}})(x + \underline{\hspace{1cm}})$</p>
<p>9. $x^2 + 22x + 21$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x + \underline{\hspace{1cm}})(x + \underline{\hspace{1cm}})$</p>	<p>10. $x^2 + 15x + 26$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x + \underline{\hspace{1cm}})(x + \underline{\hspace{1cm}})$</p>
<p>Challenge #11. $4x^2 - 3x - 17$</p> <p>$(A+B)$ $[A \cdot B]$ Use</p> <p>$(x + \underline{\hspace{1cm}})(x + \underline{\hspace{1cm}})$</p>	<p>Challenge #12. $5x^2 + 31x - 28$</p> <p>$(A+B)$ $[A \cdot B]$ Try</p> <p>1+28 1·28 2+14 2·14 4+7 4·7</p> <p>$(x + \underline{\hspace{1cm}})(x + \underline{\hspace{1cm}})$</p>